

Title (en)

EXTRACTING A FEATURE FROM A DATA SET

Title (de)

EXTRAHIEREN EINES MERKMALES AUS EINEM DATENSATZ

Title (fr)

EXTRACTION D'UNE CARACTÉRISTIQUE À PARTIR D'UN ENSEMBLE DE DONNÉES

Publication

**EP 3705944 A1 20200909 (EN)**

Application

**EP 19160933 A 20190306**

Priority

EP 19160933 A 20190306

Abstract (en)

A method of extracting a feature from a data set includes iteratively extracting a feature 244 from a data set based on a visualization 238 of a residual pattern comprised within the data set, wherein the feature is distinct from a feature extracted in a previous iteration, and the visualization of the residual pattern uses the feature extracted in the previous iteration. Visualizing 234 the data set using the feature extracted in the previous iteration may comprise showing residual patterns of attribute data that are relevant to target data. Visualizing 234 the data set using the feature extracted in the previous iteration may involve adding cluster constraints to the data set, based on the feature extracted in the previous iteration. Additionally or alternatively, visualizing 234 the data set using the feature extracted in the previous iteration may involve defining conditional probabilities conditioned on the feature extracted in the previous iteration.

IPC 8 full level

**G03F 7/20** (2006.01); **G06N 3/04** (2006.01)

CPC (source: EP KR US)

**G03F 7/0483** (2013.01 - EP KR); **G03F 7/705** (2013.01 - US); **G03F 7/70616** (2013.01 - EP KR); **G06N 20/00** (2019.01 - US);  
**G06N 20/00** (2019.01 - EP KR)

Citation (applicant)

- WO 2018133999 A1 20180726 - ASML NETHERLANDS BV [NL]
- M. LARRANAGA; D. GKOROU; T. GUZELLA; A. YPMA; F. HASIBI; R. J. VAN WIJK: "Towards interactive feature selection with human-in-the-loop", IAL WORKSHOP, pages 85 - 88
- DAVIDE ALBANESE; SAMANTHA RICCADONNA; CLAUDIO DONATI; PIETRO FRANCESCHI: "A practical tool for Maximal Information Coefficient analysis", GIGASCIENCE
- M. J. WILBER; I. S. KWAK; D. KRIEGMAN; S. BELONGIE: "Learning Concept Embeddings with Combined Human-Machine Expertise", PROCEEDINGS OF THE IEEE INTERNATIONAL CONFERENCE ON COMPUTER VISION, 2015, pages 981 - 989, XP032866423, DOI: doi:10.1109/ICCV.2015.118
- K. PUOLAMAKI; E. OIKARINEN; B. KANG; J. LIJFFIJT; T. DE BIE, INTERACTIVE VISUAL DATA EXPLORATION WITH SUBJECTIVE FEEDBACK: AN INFORMATION-THEORETIC APPROACH, 2017
- J. PELTONEN; K. GEORGATZIS: "Efficient Optimization for Data Visualization as an Information Retrieval Task, MLSP 2012", 2012 IEEE INTERNATIONAL WORKSHOP ON MACHINE LEARNING FOR SIGNAL PROCESSING
- L. MCINNES; J. HEALY; J. MELVILLE, UMAP: UNIFORM MANIFOLD APPROXIMATION AND PROJECTION FOR DIMENSION REDUCTION, Retrieved from the Internet <URL:<https://arxiv.org/abs/1802.03426>>

Citation (search report)

- [AD] WO 2018133999 A1 20180726 - ASML NETHERLANDS BV [NL]
- [A] US 2010166289 A1 20100701 - SATAKE MASAKI [JP], et al
- [A] WO 2018218249 A1 20181129 - GOOGLE LLC [US]

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**EP 3705944 A1 20200909**; CN 113544591 A 20211022; CN 113544591 B 20240409; EP 3935448 A1 20220112; EP 3935448 B1 20221228; KR 102554791 B1 20230711; KR 20210124377 A 20211014; TW 202101127 A 20210101; TW I734390 B 20210721; US 11579534 B2 20230214; US 2022128908 A1 20220428; WO 2020177973 A1 20200910

DOCDB simple family (application)

**EP 19160933 A 20190306**; CN 202080018832 A 20200206; EP 2020052953 W 20200206; EP 20703998 A 20200206; KR 20217028353 A 20200206; TW 109106023 A 20200225; US 202017436113 A 20200206